## Haile Gold Mine

# Mine Permit Application to Modify Mine Permit I – 00601 December 2012 UPDATE

## **Table of Contents**

#### Transmittal Letter

Application to Modify Mine Permit – DHEC Mining & Reclamation Form MR – 1300 (Submitted with Initial Application in 2010 – No changes are necessary. A new Form MR-1300 is not being submitted in this update.)

Application of Mine Operating Permit – DHEC Mining & Reclamation Form MR -400 (Updates discussed and reports listed where appropriate within the body of this Form MR-400 All reports being provided with this update will be on DVD in Portable Document Format (PDF)).

Reclamation Plan – DHEC Mining & Reclamation Form MR – 500 (Submitted with Initial Application in 2010 – No changes are being provided at this time. A new Reclamation Plan Form MR-500 is not being submitted in this update.)

#### **APPENDICES**

<b>Document</b> Appendi		
USGS Topographic Map with Permit Boundary A1 Project Boundary on USGS Map	A	
Mine Maps DVD & Hard Copy  B1 Period Maps Year 0 through End of Mine Life; One Year Increments December 19, 2012  B2 Mine Plan Maps (T-Series) Years 0, 3, 5, 8 & 14 December 19, 2012	<b>B</b>	
Reclamation Plan Maps (Two Sheets) DVD & Hard Copy C1 Reclamation Maps 1 of 2 September 27, 2012 C2 Reclamation Maps 2 of 2 September 27, 2012	C	
Names and Addresses of Adjacent Landowners w/Tax Map DVD Only List of All Adjoining Land Owners September 5, 2012 D2 List of Adjoining Land Owners w/New Adjoining Land Owners Yellow Highlight September D3 Property Map of All Adjoining Land Owners Rev. 2 September 5, 2012	<b>D</b> or 5, 2012	
Letter from Attorney Attesting to Land Ownership Hard Copy Only	E	
Haile Mine Geology w/Geologic Map DVD & Hard Copy F1 Summary of Haile Mine Geology F2 Haile Geologic Map 3 November 1, 2011	F	
Mining Method Description DVD Only G1 Mining Method Description Summary November 27, 2012 Hard Copy G2 Year-by-Year Mine Production and Operations December 2012	G	
Mill Process Description DVD Only H1 Mill Process Description Summary October 27, 2012 Hard Copy H2 M3Supplemental Analysis to the Mill Process Description and Process Flow Sheet May 2011 Technical Report February 28, 2012 H3 Materials Safety Data Sheets (MSDS)	Н	

<b>Document</b>		Appendix
Reports ar	nd Maps for Groundwater Withdrawal Studies DVD Only	I
Ĭ1	AMEC's Addendum to the Depressurization and Dewatering Feasibility Study June 27, 2012	
<b>I</b> 2	AMEC Maps showing Estimated Draw Down Zones from Year 0 through Year 12 August 8, 2012	
<b>I</b> 3	AMEC Land Parcels within the Estimated One Foot Drawdown Zones for the Upper Bound	
	Depressurization Model Results August 12, 2012	
<b>I4</b>	ERC Technical Memorandum Haile Gold Mine – Predicted Indirect Impacts on Streamflows,	
	Wetlands and Upland Vegetation from Depressurization and Other Site Activities June 27, 201	2
<b>I</b> 5	Schlumberger Water Services' Documents submitted in Initial Application 2010	
	ISA SWS - Groundwater and Depressurization Study - January 2011 Report	
	I5B Draft Figure 6 Extent of Saprock Modeled Cone of Depression November 2010	
	ISC Draft Figure 5 Extent of CPS Modeled Cone of Depression November 2010	
Archaeolo	gical Investigation Reports DVD Only	J
<b>J</b> 1	Southeastern Archaeological Services, Inc An Intensive Cultural Resource Survey of the Haile	
	Gold Mine, Lancaster and Kershaw Counties, SC April 29, 1993	
<b>J2</b>	PRI - Archaeological Testing & Evaluation of Six Sites in the Haile Gold Mine Tract, Kershaw,	
	SC – August 5, 2009	
<b>J3</b>	New South Assoc-Archaeological Identification and Boundary Delineation for the Leach	
	Cemetery (38LA318) – June 18, 2010 Draft Report	
<b>J4</b>	PRI - Archaeological Testing & Evaluation of Four Sites in the Haile Gold Mine Tract, Kershav	v,
	SC – August 23, 2010	
<b>J</b> 5	New South Assoc. Quarries, Blanks, and Bifaces: Data Recovery Excavations at Sites 38LA33	
	and 38LA355, Volume 1 June 24, 2011	
<b>J6</b>	New South Assoc. Quarries, Blanks, and Bifaces: Data Recovery Excavations at Sites 38LA33	
	and 38LA355, Volume 2 Appendices June 24, 2011	
J7	New South Assoc. Cultural Resources Survey of Approximately 1,003 Acres: Haile Gold Mine	<b>;</b>
	July 15, 2011 Revised Draft Report	
<b>J8</b>	New South Assoc. Addendum Report: Cultural Resources Survey of Approximately 1,161	
	Acres: Haile Gold Mine December 15, 2011 Final Report	
<b>J9</b>	New South Assoc. Occupation, Reoccupation: Data Recovery Excavations at Sites 38LA291 at	nd
	38LA361 – February 1, 2012 Final Report	
J10	R.S. Webb - Phase I Cultural Resources Survey 145-Acres Haile Gold Mine Holdings Februar	y
	28, 2012 Final Report	
J11	New South AssocGold Mining in the Carolinas – A context for Archaeological Resources	
	Management – March 31, 2012 Final Report	
J12	New South AssocHistory and Archaeology of the Haile Gold Mine Stamp Mill (Site 38LA383	3)
	- March 31, 2012 Final Rpt	
J13	New South Assoc Stamp Mill of Haile Gold Mine Site 38LA383 – March 31, 2012	
J14	R.S. Webb – Phase I Cultural Resources Survey of 553-Acres at Haile Gold Mine March 29,	
	2012 Draft Report	
J15	R.S. Webb – Phase II Archeological Investigations at 13 Sites July 9, 2012 Draft Report	
J16	School Shed Memorandum from J. Pappas (Romarco) to R. Darden (USACE) dated September	
	24, 2012	
Wildlife ar	nd Aquatic Resource Assessments Reports DVD Only	K
<b>K1</b>	Arcadis – Ecological Risk Assessment for the Proposed Future Ledbetter Pit Lake April 30,	
	2012	
<b>K2</b>	Arcadis - Spring 2012 Aquatic Resources Surveys Report June 19, 2012	
<b>K3</b>	Arcadis - Aquatic Impact Assessment for Stream Resources at the Haile Gold Mine Site Jun	e
	28, 2012	
<b>K4</b>	Arcadis - Terrestrial Wildlife Impact Assessment for the Haile Gold Mine Site June 28, 201	2

Document	<u> </u>	Appendix
	nd Aquatic Resource Assessments Reports DVD Only (Continued)	K
K5	Arcadis - Memorandum to Johnny Pappas (Romarco) from Penny Hunter (Arcadis) on	
	Potential for Herptile Species Occurrences in the Haile Gold Mine Project Area August 9, 2012	
<b>K</b> 6		
Κu	Arcadis - Comprehensive Baseline Wildlife & Aquatic Resources Report for the Haile Gold Mine Site, Revised July 20, 2012	
	With Site, Revised July 20, 2012	
Rare Plan	t Surveys Reports DVD Only	L
L1	DuMond Surveys Intermediate List of Vascular Plant Species – APPENDIX A – 2008-2010	L
L2	DuMond Technical Memorandum Addressing Occurrences of Rare Plant Species of	
22	Kershaw and Lancaster Counties at Haile Gold Mine Properties - May 29, 2012	
L3	DuMond Technical Memorandum Addressing Potential Occurrences of Federally Threaten	
	Endangered and Candidate Plant Species at Haile Gold Mine Properties – May 29, 2012	,
<b>L4</b>	ERC Technical Memorandum Final Rpt on Vegetation Assessments and Projected Impacts to	)
	Vegetation June 4, 2012	
L5	ERC - Vegetative Community Mapping Report January 6, 2012	
<b>L6</b>	ERC – Vegetation Disturbance Mapping Projected Vegetation Impacts June 4, 2012	
Sound-No	ise Evaluations & Blasting Impact Analysis Reports DVD Only	$\mathbf{M}$
<b>M1</b>	STS - Sound Evaluation and Analysis September 1, 2011	
<b>M2</b>	Vibra-Tech Engineers, Inc. Blasting Impact Analysis June 27, 2012	
<b>M3</b>	Vibra-Tech Engineers, Inc. Noise Impact Analysis June 27, 2012	
<b></b>		
_	torage Facility Design Reports DVD Only	N
N1 – N		
N13	AMEC TSF Fluid Capacity Technical Memorandum July 7, 2011	
N14	AMEC Earthquake Epicenters March 27, 2012	
Hydrologi	c Characterization Reports DVD Only	O
01	AMEC Addendum to the Baseline Hydrologic Characterization Report June 27, 2012	J
02	Schlumberger Water Resource Services' Haile Gold Mine Hydrologic Characterization Report	
-	November 2010	
Haile Gold	d Mine Lancaster County, SC Report on Feasibility Level Pit Slope Evaluation	P
	(Report submitted with 2010 Application – No changes or addendums submitted in this	
	application revision.)	
	imited LLC – Geochemistry Reports DVD Only	Q
Q1	Schafer Haile Gold Mine Baseline Geochemistry Report October 2008 with November 2010	0
	revisions	
Q2	Schafer Haile Gold Mine Addendum to Baseline Geochemistry Report November 2010	
Q3	Schafer Haile Gold Mine Overburden Management Plan November 2010	
Q4	Schafer Haile Gold Mine Second Geochemistry Baseline Addendum w/March 2012 Rev	
Q5	Schafer Memorandum on Geochemistry for Tailings Alternative Study May 4, 2012	
<b>Q6</b>	AMEC – Technical Memo on the Preliminary Evaluation of Separate Tailings Storage	
$\Omega$ 7	Facilities for Leach Floatation Concentrate and Leached Floatation Tailing – May 8, 2012	
<b>Q7</b>	M3Concentrate Separation Scoping Evaluation – May 24, 2012	
Land Ent	ry Agreements Hard Copy Only	R